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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,319	08/01/2003	James W. Clark	KCX-458-DIV (17468.1)	5224
22827 7590 03/20/2007 DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			EXAMINER FORTUNA, JOSE A	
			ART UNIT 1731	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/20/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/632,319

Applicant(s)

CLARK ET AL.

Examiner

José A. Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-31, 33, 34, 36-43, 45-50 and 52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-31, 33, 34, 36-43, 45-50 and 52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25-31, 33-34, 36-43, 45-50 and 52 are rejected under 35 USC §103(a). This rejection is set forth in the prior Office action mailed on July 14, 2006.

### ***Response to Arguments***

2. Applicant's arguments filed on December 18, 2006 have been fully considered but they are not persuasive, for the same reasons as explained in the Office action mailed on July 14, 2006. Furthermore, applicants arguments that there is no motivation to use from about 60 to 90% of the treated fibers, because the cited reference teaches away from adding more than 50% of the treated fibers. Are unconvincing, because the cited reference never explicitly or implicitly indicated that increasing the amount of treated fibers would not increase the rate of killing, but that at those levels, i.e., 10-50% they obtained 90% kill rates after the first 8 hrs and 3-log kill after 48 hours. One of ordinary skill in the art would certainly see that the cited reference was satisfied with that killing rate, maybe/probably for economic reasons, and not by any technical limits in the rate of killing. The examiner contends that one of ordinary skill in the art would have reasonable expectation of success that the rate of killing would increase if more fibers were treated with the anti-microbial agent, even if the increments were only up the most 9%, i.e., 99.0% killing.

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From the teachings of the cited reference, one of ordinary skill in the art would clearly see that the dilemma is pure economical, rather than technical. He or she have to ask the question: is it worth, at least in the present time, to increase the levels of treated fibers, from 20 to 40% more than the cited reference, to obtain a increased rate of killing of 9% at the most? Note that is has been held that “[A] combination of reference teachings may be obvious in the technological sense even though business or economic considerations would previously have counseled against such a combination.” *In re Farenkopf*, 713 F2d 714; 219 USPQ 1.

Moreover, applicants’ data prove that the rate of killing are usually at the 90% levels, i.e., the percent killing that applicants argue, i.e., greater than 97%, only occurs at add-on rate between 0.23, (Table II) and 0.58%, (Table I), for lower values, i.e., 0.04 and 0.07 the killing rate are within the levels taught by the cited reference, Suskind et al., and the claims are not limited by the amount of anti-microbial agents.

As to the covalent bonding, the cited reference teaches that the fibers are treated with the antimicrobial agent, allowed to absorb on the pulp, then heated so that the agent reacts with the hydroxyl groups of the cellulose, see column 3, lines 22-30. As one of ordinary skill in the art would recognize the bonding is covalent and it is the same way that applicants describes in the specification that the bond is obtained. See also the examiner’s arguments on office action mailed on July 14, 2006

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the Art of “Antimicrobial Fabrics.”

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4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
José A Fortuna  
Primary Examiner  
Art Unit 1731

JAF